

AMENDMENTS TO THE CLAIMS:

Claims 1-34 (Previously Cancelled)

Claim 35 (Cancel)

Claim 36 (Currently Amended) The method of claim 35 38 wherein said step of implanting oxygen includes the step of selecting an ion energy to form said silicon containing layer having a thickness of less than 1000 Å.

Claim 37 (Currently Amended) The method of claim 35 38 wherein said step of implanting oxygen includes the step of selecting an ion energy to form said silicon containing layer having a thickness of at least 1000 Å.

Claim 38 (Currently Amended) ~~The method of claim 35 wherein said step of forming a first mask includes the step of forming a~~ A method for forming a structure comprising the steps of:

~~forming a first mask having openings therein on a surface of a silicon containing substrate, said first mask further~~ having first regions ~~therein~~ of a first thickness to permit ions of oxygen to pass there through into said substrate with reduced energy,

implanting oxygen through said openings and said first mask into said substrate,
and

annealing said substrate to form a plurality of first buried oxide regions below a
silicon contain layer and to form upon said step of annealing a plurality of second buried

oxide regions in said substrate, whereby said second buried oxide regions are shallower than the first buried oxide regions.

Claim 39 (Original) The method of claim 38 wherein said step of forming a first mask includes the step of forming at least one of said first regions adjacent a respective opening to form upon said step of annealing a second buried oxide region contiguous with one of said plurality of first buried oxide regions.

Claim 40 (Currently Amended) The method of claim 35 38 further including the step of removing said first mask prior to said step of annealing.

Claim 41 (Cancel)

Claim 42 (Currently Amended) The method of claim 35 wherein said step of forming a first mask includes the step of forming A method for a structure comprising the steps of:

forming a first mask having openings therein on a surface of a silicon containing substrate, said first mask has a slanted edge at at least one of said openings at an angle with respect to an axis which is orthogonal to the surface of the silicon containing substrate and during said step of implanting ions pass

implanting oxygen through said openings in said first mask and through said slanted edge into said substrate, and

annealing said substrate to form a plurality of first buried oxide regions below a silicon contain layer, said first buried oxide regions and said silicon containing layer are located in said substrate, whereby said spaced apart silicon-on-insulator regions are formed and at least one of said first buried oxide regions has a shaped edge.

Claim 43 (Original) The method of claim 42 wherein said angle of said slanted edge is in the range from 10 to 70 degrees.

Claim 44 (Currently Amended) The method of claim 35 38 wherein said step of implanting includes the step of implanting at an angle with respect to the surface of said silicon containing substrate.

Claim 45 (Original) The method of claim 44 wherein said step of implanting includes the step of implanting at an angle in the range from 10 to 90 degrees.

Claim 46 (Currently Amended) The method of claim 35 38 further including the step of forming a field effect transistor in said silicon containing layer.

Claim 47 (Currently Amended) The method of claim 35 38 further including the step of forming a trench in said silicon containing substrate at the edge of at least one of said silicon-on-insulator regions.

Claim 48 (Original) The method of claim 47 wherein said step of forming a trench includes the step of forming said trench to intersect an edge of said buried oxide region of said silicon-on-insulator region to remove a portion of the end of said buried oxide.

Claim 49 (Currently Amended) The method of claim ~~35~~ 38 further including the step of forming a trench in said silicon containing substrate through one of said silicon-on-insulator regions.

Claim 50 (Original) The method of claim 47 further including the step of filling said trench with a material selected from the group consisting of p+ polysilicon, n+ polysilicon and a metal.

Claim 51 (Original) A method for forming a structure for forming semiconductor circuits comprising the steps of:

selecting a semiconductor substrate containing silicon having a plurality of trenches therein;

forming a first mask on said substrate having an opening to expose a trench portion, and

implanting oxygen through openings in said first mask into said substrate and said trench portion, said step of implanting including the step of plasma immersion ion implantation of oxygen whereby oxygen ions pass through the sidewalls of said trench portion to form a buried oxide layer with respect to said sidewalls.

Claim 52 (Original) The method of claim 51 further including the step of forming a gate dielectric on the sidewalls of said trench.

Claim 53 (Previously Amended) The method of claim 51 further including the step of covering a portion of at least one trench having sidewalls that extend to a common bottom wall with said first mask to prevent formation of a buried oxide layer with respect to said sidewalls and common bottom wall of said at least one trench.

Claim 54 (Original) The method of claim 53 further including the step of forming a capacitor in said trench

Claim 55 (Previously Amended) The method of claim 53 further including the step of forming an electrical contact on the sidewalls and bottom of said at least one trench.

Claim 56 (Original) The method of claim 52 further including the step of forming a gate electrode on said gate dielectric on said sidewalls in said trench.